SUBSAMPLING AND RANDOM SAMPLING GUIDELINES

The keys to successful subsampling are:

- **A sufficiently sized sample.** Collect as large a sample as possible, but at least 20% of the entire catch amount.

- **A randomly selected sample.** Each fish from the entire catch should have an equal chance of being selected for the subsample. No "favoritism" is given to "exceptional" fish (*i.e.* particularly large or small fish), as it must be equally likely that these, as well as the "typical" members, will be chosen.

Some other basic guidelines:

- Collect subsamples from **at least three different parts of a large pile**. The greater the range of fish sizes, and the greater the diversity in species composition, the greater the number of subsamples to collect, as time and conditions permit.

- Instead of a few, large subsamples, **collect more, smaller subsamples from different areas of a pile** or different times during the crew's sorting procedures.

- Ensure collection of fish from the **bottom, middle, and top layers** of a pile. Scoop a basket to be filled from the top of a mixed pile of fish, down to the deck, and back to the top.

In every subsampling situation, the methods used should be recorded in the Comments section of the corresponding Catch Estimation Worksheet.

Example: A large otter trawl catch, which consists mainly of the target species, loligo squid, is brought aboard the vessel and dumped on deck into a rectangular holding area confined by 4 peg boards. The crew sorts the catch in the following manner: the pile is picked through and all species other than squid are removed. Species to be kept are sorted into totes by species. Species to be discarded are thrown into a separate tote, as requested by the observer. Because of the large volume, the observer must sample the squid differently from the rest of the catch.

l The observer weighs all totes of the kept species other than squid to obtain actual weights for these species.

2 The observer then identifies the priority* species requiring further sampling (length measurement and age structure collection) and begins measuring fish, randomly chosen from the tote(s). While conducting length frequencies, the first one to three fish (depending on the sample size and time available) at each unique length are sampled for age structures, as appropriate.

3 The observer takes a subsample of the squid catch by filling 5 totes of squid from the total catch, making sure to collect animals from different parts of the pile. The observer estimates the total catch weight of squid based on tote counts (method A on the next page).

4 The observer then obtains a complete sample, 100 lengths*, of squid randomly chosen from the totes.

5 After sampling of the kept catch is completed, the observer sorts the tote of **discarded catch** by species. All animals are weighed to obtain actual weights for all species.

6 Appropriate numbers of length frequency and age structures are collected from all of the required* (priority) species of the discarded catch, as described in #2.

* See Tables 1a-h. Length Frequency & Age Structure Sampling Priorities by Fishery, & Table 2. Fish & Shellfish Sampling Priorities by Species.